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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,508

09/28/2004

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EXAMINER

DANG, THUAN D

ART UNIT

PAPER NUMBER

1797

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/509,508	<b>Applicant(s)</b> DUNCAN ET AL.	
	<b>Examiner</b> THUAN D. DANG	<b>Art Unit</b> 1797	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,6,10,11,13,15-17,20-22,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1, 2, 4, 6, 10, 11, 13, 15-17, 20, 21, 22, 32, 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Election/Restrictions***

It is acknowledged by the examiner that species MCM-22 is the selected species for the examination of the claims in this application. Therefore, claims 16, 17, 20, 21

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4, 6, 10, 11, 13, 15-17, 20-22, 32, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 32, the term “MCM-22 family” is indefinite since it is unclear which specific zeolites are considered to belong to this family.

Also regarding claims 1 and 33, the expression “said olefins having at least 12 carbon atoms and an average of from 0.8 to 2.0 C<sub>1</sub>-C<sub>3</sub> alkyl branches per carbon chain and no branches other than ethyl groups” (emphasis added) is indefinite and vague since applicants claim these olefins include C1 and C3 alkyl group (methyl and propyl group) and also exclude these two groups.

Claims 13 and 15 depend on cancelled claim 12.

Regarding claim 32, “MCM-22 family molecular sieve” is twice repeated in the claim.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 4, 6, 10, 11, 13, 15-17, 20-22, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blain et al (5,026,933) in view of Le et al (4,962,256) or Le et al (4,962,256) in view of Blain et al (5,026,933).

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It is noted that applicants elect MCM-22 as the species for the examination. Therefore, all of the claims in this rejection are considered as the claimed process is operated in the presence of MCM-22 as the alkylation catalyst.

While Blain discloses a process of making detergent-grade olefin oligomers having characteristics as called for in the present claims in the presence of ZSM-23 as called for in claim 9, Le discloses a process for production of detergent grade long chain alkyl aromatic by alkylating aromatic with a long chain olefin in the presence of MCM-22 cocatalyst (Blain: the abstract; col. 5, lines 25-6; col. 7, line 18 thru col. 8, line 42; Le: the abstract; col. 3, line 36 thru col. 4, line 25).

While Blain does not disclose that the catalyst for the alkylation is MCM-22, Le does not disclose using an olefin having characteristics as called for in the claims.

However, as discussed above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Blain process by using MCM-22 as the alkylation catalyst to arrive at the applicants' claimed process since Le discloses that the catalyst provide the alkylaromatic predominantly in the 2- or 3-positions (col. 2, lines 50-54).

Alternatively, as discussed above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Le process by using the olefins produced Blain since the olefin oligomers may be used as alkylating agents to prepare biodegradable alkylbenzenes and alkylphenylsulfonates (see the abstract).

As discussed in the 112 2<sup>nd</sup> rejection, applicants claim both including and excluding C1 and C3 alkyl group in the oligomer for the alkylation. Therefore, it is considered that the

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oligomers include C1-3 alkyl groups as originally claimed. Therefore, this combined rejection is still applied.

Any other limitations are also disclosed in the two references.

### ***Allowable Subject Matter***

Claim 33 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose or render obvious a process as called for in claim 32 in which the oligomerization product is not subjected to any pretreatment other than to remove the surface deactivating agent prior to the contacting step in the alkylation. As disclosed by Blain et al (5,026,933), the oligomerization product is separated for the alkylation (col. 5, line 52 thru col. 7, 17). Further, as disclosed by applicants in paragraph [0036], due to the use of the MCM-22 molecular sieves which have different structures than the zeolite used for the alkylation step in the applied Blain process, any pretreatment of the oligomerization product other than the step of removal of the surface deactivating agent is not required.

### ***Response to Arguments***

Applicant's arguments filed 12/17/08 and 2/26/09 have been fully considered but they are not persuasive.

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The argument that Blain teaches alkylation mono-olefin oligomers having branches that are only methyl group is not persuasive since applicants claim oligomers also having methyl groups (see 112, 2nd paragraph and 103 rejection above).

The argument that newly added claim 33 is patentable over the cited prior art is not persuasive (see the 112, 2<sup>nd</sup> paragraph and 103 rejection above).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUAN D. DANG whose telephone number is (571)272-1445. The examiner can normally be reached on Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/THUAN D DANG/

Primary Examiner, Art Unit 1797